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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,581	07/31/2003	Andrew Sachs	013777-000001	1580
24239	7590	05/04/2005	EXAMINER	
MOORE & VAN ALLEN PLLC P.O. BOX 13706 Research Triangle Park, NC 27709			NGUYEN, DUC MINH	
			ART UNIT	PAPER NUMBER
			2643	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/604,581	Applicant(s) SACHS, ANDREW	
	Examiner Duc Nguyen	Art Unit 2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-80 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-80 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 4, 6, 10-11, 13, 20-21, 27-33, 37-38, 40, 42, 44, 56-58, 62-65, 66-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bothof et al (4,105,995) in view of Lowell et al (6,362,630).

Consider claims 1, 10-11, 20-21, 30-33, 37, 44, 56-58, 62, 66-71, 73-74. Bothof teaches a system and method to qualify a line pair, comprising sending an initiate test signal (see fig(s). 2) to a termination unit (column(s) 7, line(s) 12-30); and performing a series of line pair qualifying tests (see the entire abstract; column(s) 1, line(s) 5-22; column(s) 2, line(s) 10-51; column(s) 2, line(s) 54 to column(s) 3, line(s) 27; column(s) 7, line(s) 12-36; column(s) 21, line(s) 20 to column(s) 27, line(s) 23), wherein the termination unit is adapted to provide selected types of terminations connectable to the line pair to perform the qualifying tests (column(s) 21, line(s) 20 to column(s) 27, line(s) 23). Bothof manually selects types of terminations connectable to the line pair to perform the qualifying tests.

Lowell teaches a system and method comprising automatically selecting types of terminations connectable to the line pair to perform the qualifying tests (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Lowell into the teachings of Bothof for the purposes mentioned above.

Consider claims 2, 27, 38, 63, 72, 75. Lowell further teaches open circuiting the line pair for a predetermined time period or in response to receiving a predetermined signal; and performing open circuit line tests while the line pair is open circuited by the termination unit (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Consider claims 4, 28, 40, 64, 72, 76. Lowell further teaches short circuiting the line pair for a predetermined time period or in response to receiving a predetermined signal; and performing short circuit line tests while the line pair is open circuited by the termination unit (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Consider claims 6, 29, 42, 65. Lowell further teaches transmitting a selected signal on the line pair for a predetermined time period or in response to receiving a predetermined signal; and performing signal loop tests while the selected signal is transmitted on the line pair by the termination unit (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

Consider claim 13. Lowell teaches the use of well-known test equipment (column(s) 5, line(s) 5-20). Therefore, it would have been obvious to use the well-known, off-the-shelves VT100 terminal for testing the copper line pair.

3. Claims 3, 5, 7-8, 14-17, 19, 22, 25-26, 34-36, 39, 41, 43, 45-47, 49-55, 59-61, 77-80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bothof et al (4,105,995) in view of Lowell et al (6,362,630) as applied to claims 1-2, 4, 6, 10-11, 20-21, 27-33, 37-38, 40, 42, 44, 56-58, 62-65, 66-69, 72-76 above, and further in view of Liu et al (6,266,395), Bauer et al (6,026,145) or Smith et al (US 2002/0067802A1).

Consider claims 3, 7, 14-17, 19, 22, 25-26, 34-36, 39, 41, 43, 45-46, 49-55, 59-61, 77-79. Bothof in view of Lowell does not teach performing time domain reflectometry tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test.

Liu teaches performing time domain reflectometer tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test (column(s) 7, line(s) 6 to column(s) 11, line(s) 6) for the purposes of providing an apparatus for the qualification of subscriber loops which reduces the skill level required by operators performing the qualification (column(s) 2, line(s) 34-37).

Bauer teaches performing time domain reflectometer tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test (column(s) 3, line(s) 44-59; column(s) 5, line(s) 50-60; column(s) 6, line(s) 29-62) for the purposes of determining the location of telephone line faults (col. 3, line(s) 25-29).

Smith teaches performing time domain reflectometer tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test (page(s) 1, § 0009, page(s) 2, § 0026, page(s) 3, § 0030-0032; page(s) 4, § 0052) for the purposes of testing copper pair lines that can aid in predicting, analyzing and locating defects in the lines so as to make repair and qualification of copper pair lines for xDSL service more efficient (page(s) 1, § 0008).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Liu, Bauer or Smith into the teachings of Bothof in view of Lowell for the purposes mentioned above.

Consider claim 5. Liu further teaches performing time domain reflectometer tests, leakage test, capacitive measurements, noise tests, a foreign voltage presence test, and insulation test (column(s) 7, line(s) 6 to column(s) 11, line(s) 6) for the purposes of providing an apparatus for the qualification of subscriber loops which reduces the skill level required by operators performing the qualification (column(s) 2, line(s) 34-37).

Consider claim 8. Liu further teaches sending signal over a DSL link (see the entire abstract).

Consider claim 47. Lowell teaches the use of well-known test equipment (column(s) 5, line(s) 5-20). Therefore, it would have been obvious to use the well-known, off-the-shelves VT100 terminal for testing the copper line pair.

Consider claim 80. Lowell further teaches short circuiting the line pair for a predetermined time period or in response to receiving a predetermined signal; and performing short circuit line tests while the line pair is open circuited by the termination unit (column(s) 1, line(s) 14-17; column(s) 1, line(s) 50 to column(s) 2, line(s) 6; column(s) 3, line(s) 53-61) for the

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purposes of selecting open loop or closed loop condition for test purposes (column(s) 1, line(s) 14-17).

4. Claims 9, 23 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bothof et al (4,105,995) in view of Lowell et al (6,362,630) as applied to claims 1, 20-21, 37, 44 above, and further in view of Barton et al (5,343,461).

Consider claims 9, 23, 48. Bothof in view of Lowell does not clearly teach sending the initiate test signal over an embedded operations channel.

Barton teaches sending the initiate test signal over an embedded operations channel (e.g., control channel or out-of-band control code; column(s) 1, line(s) 35 to column(s) 2, line(s) 7) for the purposes of performing a well-known loop back test.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Barton into the teachings of Bothof in view of Lowell for the purposes mentioned above.

5. Claims 12 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bothof et al (4,105,995) in view of Lowell et al (6,362,630) as applied to claims 1, 10 and 20-21 above, and further in view of Galpin (5,392,327).

Consider claims 12, 24. Bothof in view of Lowell does not clearly teach disconnecting the remote termination unit from the line pair before performing the series of line qualifying tests.

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Galpin teaches disconnecting the remote termination unit from the line pair before performing the series of line qualifying tests (see the entire abstract; column(s) 3, line(s) 6-16; column(s) 5, line(s) 43-55; column(s) 6, line(s) 36-48) for the purposes of permitting both rapid line measurement for routine testing of good lines for preventative maintenance and unlimited test time for on-demand testing of faulty lines (column(s) 2, line(s) 39-49).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Galpin into the teachings of Bothof in view of Lowell for the purposes mentioned above.

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bothof et al (4,105,995) in view of Lowell et al (6,362,630) as applied to claim 1 above, and further in view of Beffel et al (5,187,733).

Consider claim 18. Bothof in view of Lowell does not clearly teach removing battery from the line pair before performing the series of line pair qualifying tests.

Beffel teaches removing battery from the line pair before performing the series of line pair qualifying tests (column(s) 10, line(s) 21-49; column(s) 11, line(s) 44-58) for the purposes of testing of subscriber lines prior to cutover of a replacement switching system.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Beffel into the teachings of Bothof in view of Lowell for the purposes mentioned above.


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Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc Nguyen whose telephone number is (571)272-7503. The examiner can normally be reached on 7:00AM-3:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kuntz Curtis can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Duc Nguyen
Primary Examiner
Art Unit 2643

4/22/05